

## Environmental Protection Agency

## § 98.321

### § 98.317 Records that must be retained.

In addition to the records required by § 98.3(g), you must retain the records specified in paragraphs (a) and (b) of this section for each titanium dioxide production facility.

(a) If a CEMS is used to measure CO<sub>2</sub> emissions, then you must retain under this subpart required for the Tier 4 Calculation Methodology in § 98.37 and the information listed in this paragraph (a):

(1) Records of all calcined petroleum coke purchases.

(2) Annual operating hours for each titanium dioxide process line.

(b) If a CEMS is not used to measure CO<sub>2</sub> emissions, then you must retain records for the information listed in this paragraph:

(1) Records of all calcined petroleum coke purchases (tons).

(2) Records of all analyses and calculations conducted for all reported data as listed in § 98.316(b).

(3) Sampling analysis results for carbon content of consumed calcined petroleum coke (percent by weight expressed as a decimal fraction).

(4) Sampling analysis results for the carbon content of carbon containing waste (percent by weight expressed as a decimal fraction), if applicable.

(5) Monthly production of carbon-containing waste (tons).

(6) You must document the procedures used to ensure the accuracy of the monthly petroleum coke consumption and quantity of carbon-containing waste measurement including, but not limited to, calibration of weighing equipment and other measurement devices. The estimated accuracy of measurements made with these devices must also be recorded, and the technical basis for these estimates must be provided.

(7) Annual operating hours for each titanium dioxide process line (hours).

### § 98.318 Definitions.

All terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

## Subpart FF—Underground Coal Mines

SOURCE: 75 FR 39763, July 12, 2010, unless otherwise noted.

### § 98.320 Definition of the source category.

(a) This source category consists of active underground coal mines, and any underground mines under development that have operational pre-mining degasification systems. An underground coal mine is a mine at which coal is produced by tunneling into the earth to the coalbed, which is then mined with underground mining equipment such as cutting machines and continuous, longwall, and shortwall mining machines, and transported to the surface. Underground coal mines are categorized as active if any one of the following five conditions apply:

(1) Mine development is underway.

(2) Coal has been produced within the last 90 days.

(3) Mine personnel are present in the mine workings.

(4) Mine ventilation fans are operative.

(5) The mine is designated as an "intermittent" mine by the Mine Safety and Health Administration (MSHA).

(b) This source category includes the following:

(1) Each ventilation well or shaft, including both those wells and shafts where gas is emitted and those where gas is sold, used onsite, or otherwise destroyed (including by flaring).

(2) Each degasification system well or shaft, including degasification systems deployed before, during, or after mining operations are conducted in a mine area. This includes both those wells and shafts where gas is emitted, and those where gas is sold, used onsite, or otherwise destroyed (including by flaring).

(c) This source category does not include abandoned or closed mines, surface coal mines, or post-coal mining activities (*e.g.*, storage or transportation of coal).

### § 98.321 Reporting threshold.

You must report GHG emissions under this subpart if your facility contains an active underground coal mine

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and the facility meets the requirements of § 98.2(a)(1).

### § 98.322 GHGs to report.

(a) You must report CH<sub>4</sub> liberated from ventilation and degasification systems.

(b) You must report CH<sub>4</sub> destruction from systems where gas is sold, used onsite, or otherwise destroyed (including by flaring).

(c) You must report net CH<sub>4</sub> emissions from ventilation and degasification systems.

(d) You must report under this subpart the CO<sub>2</sub> emissions from coal mine gas CH<sub>4</sub> destruction occurring at the facility, where the gas is not a fuel input for energy generation or use (*e.g.*, flaring).

(e) You must report under subpart C of this part (General Stationary Fuel Combustion Sources) the CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O emissions from each stationary fuel combustion unit by following the requirements of subpart C. Report emissions from both the combustion of

collected coal mine CH<sub>4</sub> and any other fuels.

(f) An underground coal mine that is subject to this part because emissions from source categories described in Tables A–3, A–4 or A–5 of subpart A of this part, or from stationary combustion (subpart C of this part), is not required to report emissions under this subpart unless the coal mine liberates 36,500,000 actual cubic feet (acf) or more of methane per year from its ventilation system.

[75 FR 39763, July 12, 2010, as amended at 76 FR 73901, Nov. 29, 2011]

### § 98.323 Calculating GHG emissions.

(a) For each ventilation shaft, vent hole, or centralized point into which CH<sub>4</sub> from multiple shafts and/or vent holes are collected, you must calculate the quarterly CH<sub>4</sub> liberated from the ventilation system using Equation FF–1 of this section. You must measure CH<sub>4</sub> content, flow rate, temperature, pressure, and moisture content of the gas using the procedures outlined in § 98.324.

$$CH_{4V} = n * \left( V * MCF * \frac{C}{100\%} * 0.0423 * \frac{520^{\circ}R}{T} * \frac{P}{1 \text{ atm}} * 1,440 * \frac{0.454}{1,000} \right) \quad (\text{Eq. FF-1})$$

Where:

CH<sub>4V</sub> = Quarterly CH<sub>4</sub> liberated from a ventilation monitoring point (metric tons CH<sub>4</sub>).

V = Volumetric flow rate for the quarter (cfm) based on sampling or a flow rate meter. If a flow rate meter is used and the meter automatically corrects for temperature and pressure, replace “520°R/T × P/1 atm” with “1”.

MCF = Moisture correction factor for the measurement period, volumetric basis.

= 1 when V and C are measured on a dry basis or if both are measured on a wet basis.

= 1-(f<sub>H<sub>2</sub>O</sub>)<sub>n</sub> when V is measured on a wet basis and C is measured on a dry basis.

= 1/[1-(f<sub>H<sub>2</sub>O</sub>)] when V is measured on a dry basis and C is measured on a wet basis.

(f<sub>H<sub>2</sub>O</sub>) = Moisture content of the methane emitted during the measurement period, volumetric basis (cubic feet water per cubic feet emitted gas).

C = CH<sub>4</sub> concentration of ventilation gas for the quarter (%).

n = The number of days in the quarter where active ventilation of mining operations is taking place at the monitoring point.

0.0423 = Density of CH<sub>4</sub> at 520 °R (60 °F) and 1 atm (lb/scf).

520 °R = 520 degrees Rankine.

T = Temperature at which flow is measured (°R) for the quarter.

P = Pressure at which flow is measured (atm) for the quarter. The annual average barometric pressure from the nearest NOAA weather service station may be used as a default.

1,440 = Conversion factor (min/day).

0.454/1,000 = Conversion factor (metric ton/lb).

(1) Consistent with MSHA inspections, the quarterly periods are:

(i) January 1–March 31.

(ii) April 1–June 30.

(iii) July 1–September 30.

(iv) October 1–December 31.

(2) Values of V, C, T, P, and (f<sub>H<sub>2</sub>O</sub>), if applicable, must be based on measurements taken at least once each quarter